

### Abstract of the Disclosure

**[0060]** A voltage converting method and a voltage converting apparatus using a large electrolytic condenser are provided. In the method according to an embodiment of the invention, when the level of an input alternating voltage is equal to or greater than a first predetermined level and smaller than a second predetermined level that is smaller than the first predetermined level, the input alternating voltage is rectified to produce an output direct voltage. When the level of the input alternating voltage is equal to or greater than the second predetermined level, the rectification of the input alternating voltage is stopped. Thereafter, if the provision of the input alternating voltage is stopped and then resumed, the production of the output direct voltage is resumed. Accordingly, the large electrolytic condenser can be protected without physically destroying any device, and the output direct voltage can be immediately produced from the input alternating voltage when the level of the input alternating voltage returns to its normal state. Thus, the production of the output direct voltage is simplified, and unnecessary repair costs are avoided. Also, the cause of inrush current that can be introduced into the large electrolytic condenser is advantageously removed.